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ABSTRACT

This study investigates whether the use of Superlearning to teach rare English words produces retention scores significantly different than Ebbinghaus's 'normal' forgetting curve. Superlearning techniques are adaptations by Ostrander and Schroeder of Lozanov's Suggestopaedic methods to tap reserve human potential. Six course sections of University of Wyoming education undergraduates received treatment which included: (1) pretests and posttests; (2) superlearning tapes using relaxation techniques and baroque music; and (3) retention tests one to four weeks after treatment. Results showed consistently higher retention rates than the 'normal' forgetting curve. (BS)

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SUGGESTIVE-ACCELERATIVE LEARNING AND TEACHING AND RETENTION

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Georgi Lozanov, a Bulgarian scientist and doctor, developed Suggestology and the Suggestopaedic method in an effort to tap human potentials which he believes are yet in reserve. The method was adapted for use in this country and generally follows the pattern outlined in Ostrander and Schroeder's book, Superlearning. A society which advocates the use of this technique has been formed and is called the Society for Suggestive-Accelerative Learning and Teaching (SALT).

A review of the research on the use of Superlearning in the United States reveals that studies have either dealt with the effectiveness of the method or the essential nature of each of the components. Lozanov's method has proven to be effective across disciplines and at all educational levels. Vannan (1979) used Superlearning in an elementary science methods course and found a substantial increase (11.3%/78.8%)in the percentage of A's earned in the course. Gritton and Benitez-Bordon (1976) used Superlearning with subjects whose achievement scores were significantly ($p < .01$) lower than the control group scores at the beginning of the school year. In one semester, the experimental group showed a significant ($p < .01$)gain over the control group. Pritchard and Taylor (1976) showed favorable results in working with elementary remedial reading students.

A study by Render, Hull and Moon (1983) isolated the effects of relaxation and the playing of Baroque music during testing on subjects' scores. These variables had no significant effect on scores, which indicated that the variables alone aren't sufficient to produce significant results. Schuster and Mouzon (1982) experimented with

the type of music played during learning, and found that the use of Baroque music resulted in 24% higher acquisition scores for experimental subjects.

These studies have established the apparent effectiveness of Superlearning, but none of them specifically addressed the retention rates resulting from the use of the method. This study was designed to determine if the use of Superlearning to teach rare English words would produce retention scores significantly different from a 'normal' forgetting curve. The hypothesis formulated was:

1) There will be no difference between the retention scores of subjects undergoing treatment and the retention rate shown by a 'normal' forgetting curve as suggested by Ebbinghaus. (Hunter,1970) (See Results and Discussion)

Procedure

Six sections of the undergraduate course, Foundations of Learning, at the University of Wyoming, were selected for this study. The course is required for all education majors and most students are sophomores or juniors. All of the sections received the same treatment but each section was randomly assigned to be tested for retention one, two, three, or four weeks following treatment.

The treatment procedure follows:

1) A pretest was given over a list of twenty-five rare English words.
2) Subjects were given a list of those words and their definitions. The experimenter read those words and definitions aloud as subjects read silently with the experimenter.
3) A commercial Superlearning tape was played to relax subjects'

minds and bodies. At the end of the tape, subjects were asked to remember an early pleasant learning experience.

4) An investigator-prepared tape was used to present the words and definitions using voice intonation, alternating normal, soft, and loud tones. Words were presented to the beat of Baroque music. (4/4 time, approximately 60 beats/minute) A word and its definition were presented during a four beat (four second) period, followed by a four beat pause, and so on. Subjects were asked to breathe rhythmically, ie., to hold their breath while words and definitions were given and to inhale or exhale during apuses.

5) A post-test was given to measure gains.

6) Subjects were given a retention test one, two, three or four weeks after treatment .

Results and Discussion

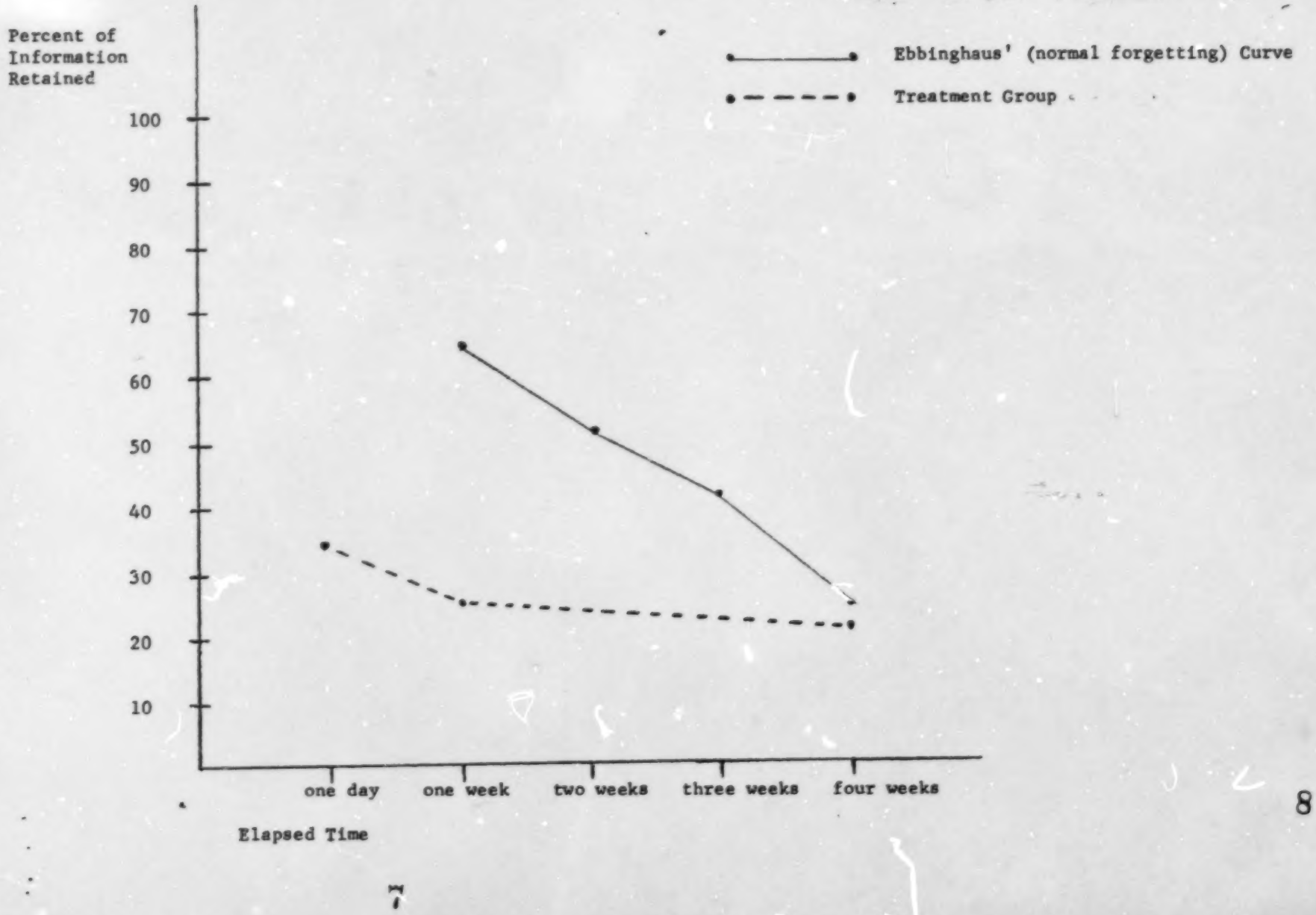
The resulting mean retention scores were plotted against a forgetting curve which resulted from the experimentation of Hermann Ebbinghaus in the 1880's. Ebbinghaus experimented with learning of nonsense words and the retention of those words. He plotted both learning and forgetting curves. While some may question the reliability of Ebbinghaus' results, this researcher has found that more recent research has included confounding variables which make it impossible to plot a simple forgetting curve. In addition, Ebbinghaus' word has been found to be remarkably valid. (Sawrey, 1973)

Sawrey (1973, p.372)stated that "while most of them (researchers) have not found forgetting to happen as rapidly as Ebbinghaus did, the extent to which their curves retain the same general shape as that described by this pioneering experimenter is surprising." Ebbinghaus'

curve shows a dramatic loss in retention immediately after learning after which retention decreases gradually.

The hypothesis made in this study was not supported. The graph shows consistently higher retention rates for subjects in this study compared to a 'normal' forgetting curve. After one week, subjects in this study demonstrated 67% retention, while Ebbinghaus found a one week retention rate of 34%. The retention rates resulting from this study show a linear decline while Ebbinghaus' did not. No prediction can be made as to what retention rates would result if a test were given five or six weeks after treatment.

The findings suggest that Superlearning methods result in retention, especially in the period one or two weeks after treatment. A further study is in progress to compare the retention rates of a treatment to those of a control group.


Percent of Information Retained
100
90
80
70
60
50
40
30
20
10
Ebbinghaus' (normal forgetting) Curve
Treatment Group
one day
one week
two weeks
three weeks
four weeks
Elapsed Time

LIST OF UNFAMILIAR WORDS

1. siffilate	a. to whisper
2. mullock	b. rubbish
3. pilose	c. hairy
4. impostume	d. abcess
5. arsle	e. to move backward
6. pullulate	f. to bud
7. vesicant	g. an agent that induces blistering
8. cotty	h. entangled
9. nisse	i. a friendly Scandinavian elf
10. docent	j. a teacher
11. komatik	k. an Eskimo sledge
12. sapid	l. having flavor
13. epulation	m. feasting
14. layne	n. to conceal
15. rachis	o. the spine
16. mabyer	p. a young hen
17. bensh	q. to bless
18. oneiric	r. of or relating to dreams
19. warling	s. a person detested or disliked
20. jimp	t. slender and trim
21. saanen	u. a breed of Swiss dairy goat
22. tabet	v. sensation; feeling
23. lamper	w. to walk heavily
24. ethalposis	x. a sensation of warmth
25. urceole	y. a vessel for water for washing the hands

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